

## WHAT IS CLAIMED IS:

1           1.    For use in a wireless access network, a TDD FDD system  
2 comprising:

3               a first base station and a first subscriber unit within  
4 a first sector, the first base station transmitting to the first  
5 subscriber unit on a downlink frequency during a first time period  
6 and the first subscriber unit transmitting to the first base  
7 station on an uplink frequency during a second time period  
8 following the first time period; and

9               a second base station and a second subscriber unit within  
10 a second sector adjacent to the first sector, the second base  
11 station transmitting to the second subscriber unit on the downlink  
12 frequency during the second time period and the second subscriber  
13 unit transmitting to the second base station on the uplink  
14 frequency during the first time period.

1           2.    The system as set forth in Claim 1, wherein the first  
2 base station is the second base station and the first and second  
3 sectors are adjacent sectors within a single cell.

1           3.    The system as set forth in Claim 1, wherein the first  
2   base station is separate from the second base station and the first  
3   and second sectors are adjacent sectors within adjoining cells.

1           4.    The system as set forth in Claim 1, wherein the downlink  
2   frequency and the uplink frequency are separated by a predefined  
3   duplex spacing, and wherein filtering of received signals at the  
4   downlink and uplink frequencies prevents out-of-band transmission  
5   signal strength from reaching an interference level.

1           5.    A transceiver, comprising:

2                   means for transmitting or receiving on a first frequency  
3    designated for downlink transmission within a first sector during  
4    a first time period; and

5                   means for receiving or transmitting on a second frequency  
6    different from the first frequency and designated for uplink  
7    transmission within the first sector during a second time period  
8    following the first time period,

9                   wherein the first frequency is employed for downlink  
10   transmission during the second time period within a second sector  
11   adjacent to the first sector and the second frequency is employed  
12   for uplink transmission during the first time period within the  
13   second sector.

1           6.    The transceiver as set forth in Claim 5, wherein the  
2                   means for transmitting or receiving on a first frequency designated  
3    for downlink transmission within a first sector during a first time  
4    period further comprises:

5                   a base station transmitting to a subscriber unit within  
6    the first sector.

1           7.    The transceiver as set forth in Claim 5, wherein the  
2   means for transmitting or receiving on a first frequency designated  
3   for downlink transmission within a first sector during a first time  
4   period further comprises:

5               a subscriber unit within the first sector receiving from  
6   a base station.

1           8.    The transceiver as set forth in Claim 5, wherein the  
2   means for receiving or transmitting on a second frequency different  
3   from the first frequency and designated for uplink transmission  
4   within the first sector during a second time period following the  
5   first time period further comprises:

6               a base station transmitting to a subscriber unit within  
7   the second sector.

1           9. The transceiver as set forth in Claim 5, wherein the  
2 means for receiving or transmitting on a second frequency different  
3 from the first frequency and designated for uplink transmission  
4 within the first sector during a second time period following the  
5 first time period further comprises:

6           a subscriber unit within the second sector receiving from  
7 a base station.

1           10. For use in a wireless access network, a method of time  
2 sharing frequencies reserved for FDD operation comprising the steps  
3 of:

4           transmitting to a subscriber unit within a first sector  
5 during a first time period on a downlink frequency designated for  
6 downlink transmission;

7           receiving from the subscriber unit within the first  
8 sector during a second time period following the first time period  
9 on an uplink frequency designated for uplink transmission;

10          transmitting to a subscriber unit within a second sector  
11 adjacent to the first sector during the second time period on the  
12 downlink frequency; and

13          receiving from the subscriber unit within the second  
14 sector during the first time period on the uplink frequency.

1           11. The method as set forth in Claim 10, wherein the steps of  
2     transmitting to a subscriber unit within a first sector during a  
3     first time period on a downlink frequency designated for downlink  
4     transmission and transmitting to a subscriber unit within a second  
5     sector adjacent to the first sector during the second time period  
6     on the downlink frequency further comprise:

7           transmitting from a single base station to adjacent  
8     sectors within a single cell.

1           12. The method as set forth in Claim 10, wherein the steps of  
2     transmitting to a subscriber unit within a first sector during a  
3     first time period on a downlink frequency designated for downlink  
4     transmission and transmitting to a subscriber unit within a second  
5     sector adjacent to the first sector during the second time period  
6     on the downlink frequency further comprise:

7           transmitting from different base stations to adjacent  
8     sectors within adjoining cells.

1           13. A signal pattern for time sharing frequencies reserved  
2 for FDD operation, comprising:

3                 downlink transmission to one or more subscribers within  
4 a first sector during a first time period on a downlink frequency  
5 designated for downlink transmission;

6                 downlink transmission to one or more subscribers within  
7 a second sector adjacent the first sector during a second time  
8 period following the first time period on the downlink frequency;

9                 uplink transmission from the one or more subscribers  
10 within the first sector during the second time period on an uplink  
11 frequency designated for uplink transmission; and

12                 uplink transmission from the one or more subscribers  
13 within the second sector during the first time period on the uplink  
14 frequency,

15                 wherein the downlink and uplink transmissions alternate  
16 between sectors in sequential time periods on dedicated  
17 frequencies.



1           14. The signal pattern of claim 13, wherein the downlink  
2 transmission occurs within the first sector on the downlink  
3 frequency concurrently with uplink transmission in each adjoining  
4 sector on the uplink frequency, and the uplink transmission occurs  
5 within the first sector on the uplink frequency concurrently with  
6 downlink transmission in each adjoining sector on the downlink  
7 frequency.